CLAIMS

1. A method of making an RFID device, the method comprising:

providing a web material, the web material including a continuous conductive layer and a continuous dielectric layer;

forming at least one aperture in the conductive layer; and

applying at least one strap across the at least one aperture.

2. The method of claim 1, wherein the providing a web material further includes providing separate conductive and dielectric webs and combining the webs to provide the web material including a continuous conductive layer and a continuous dielectric layer.

3. The method of claim 1, wherein the at least one aperture extends in the longitudinal direction of the web material.

4. The method of claim 3, wherein the forming the at least one aperture includes:

forming at least one crease portion in the longitudinal direction of the web material, the crease portion including a central portion of overlapped web material between adjacent portions of single ply web material; and

removing at least part of the central portion of the at least one crease portion.

5. The method of claim 4, wherein the forming the at least one crease portion includes folding the web material into a T-shape cross-section.

6. The method of claim 4, wherein the forming the at least one crease portion further includes forming the central portion of overlapping web material with the dielectric layer of the web material adjacent to itself.

7. The method of claim 4, wherein the forming the at least one crease portion includes connecting the central portion of overlapping web material with an adhesive.

8. The method of claim 4, wherein the forming the at least one crease portion includes connecting the central portion of overlapping web material by crimping.

9. The method of claim 4, wherein the removing at least part of the central portion of the at least one crease portion includes cutting the central portion of overlapping web material along the longitudinal axis of the crease portion.

10. The method of claim 4, wherein the applying at least one strap includes using an adhesive.

11. The method of claim 1, further comprising dividing the web material into a plurality of discrete tessellated RFID devices by cutting the web material across the transverse axis.

12. The method of claim 1, further comprising dividing the web material into a plurality of discrete untessellated RFID devices by cutting the web material across the transverse axis.

13. The method of claim 1, further comprising dividing the web material into a plurality of discrete partially tessellated RFID devices by cutting the web material across the transverse axis.

14. The method of claim 1, wherein the at least one aperture extends in the transverse direction of the web material.

15. The method of claim 14, wherein the forming the at least one aperture includes:

forming at least one crease portion in the transverse direction of the web material, the crease portion including a central portion of overlapped web material between adjacent portions of single ply web material; and

removing at least part of the central portion of the at least one crease portion.

16. The method of claim 15, wherein the forming the at least one crease portion includes folding the web material into a T-shape cross-section.

17. The method of claim 15, wherein the forming the at least one crease portion further includes forming the central portion of overlapping web material with the dielectric layer of the web material adjacent to itself.

18. The method of claim 15, wherein the forming the at least one crease portion includes connecting the central portion of overlapping web material with an adhesive.

19. The method of claim 15, wherein the forming the at least one crease portion includes connecting the central portion of overlapping web material by crimping.

20. The method of claim 15, wherein the removing at least part of the central portion of the at least one crease portion includes cutting the central portion of overlapping web material along the longitudinal axis of the crease portion.

21. The method of claim 15, wherein the applying at least one strap includes using an adhesive.

22. The method of claim 14, further comprising dividing the web material into a plurality of discrete tessellated RFID devices by cutting the web material across the longitudinal axis.

23. The method of claim 14, further comprising dividing the web material into a plurality of discrete untessellated RFID devices by cutting the web material across the longitudinal axis.

24. The method of claim 14, further comprising dividing the web material into a plurality of discrete partially tessellated RFID devices by cutting the web material across the longitudinal axis.

25. The method of claim 1, wherein the forming the at least one aperture includes fully separating the conductive portions on either side of the at least one aperture.

26. The method of claim 1, wherein the forming at least one aperture includes leaving conductive bridges connecting conductive portions on either side of the at least one aperture.

27. The method of claim 26, wherein the applying includes applying the strap such that conductive portions operatively coupled to the conductive strap are electrically coupled by at least one of the conductive bridges.

28. The method of claim 26, wherein the forming includes making elliptical holes in the conductive layer.

29. A web of RFID devices comprising:

a web material having a conductive layer and a dielectric layer;

at least one aperture in the conductive layer forming at least two separate conductor portions;

at least one RFID device including a strap attached across the aperture and coupled to a conductor portion on each side of the aperture.

30. A web of RFID devices according to claim 29, wherein the at least one aperture in the conductive layer extends in the transverse direction of the web, and wherein the at least one RFID device is oriented in the longitudinal direction of the web material.

31. A web of RFID devices according to claim 29, wherein the at least one aperture in the conductive layer extends in the longitudinal direction of the web, and wherein the at least one RFID device is oriented in the transverse direction of the web material.

32. A web of RFID devices according to claim 29, further comprising a plurality of RFID devices arranged in a tessellated configuration.

33. A web of RFID devices according to claim 29, further comprising a plurality of RFID devices arranged in a partially tessellated configuration.

34. A web of RFID devices according to claim 29, further comprising a plurality of RFID devices arranged in an untessellated configuration.

35. A web of RFID devices according to claim 29, further comprising a plurality of RFID devices separable from the web in a tessellated configuration.

36. A web of RFID devices according to claim 29, further comprising a plurality of RFID devices separable from the web in a partially tessellated configuration.

37. A web of RFID devices according to claim 29, further comprising a plurality of RFID devices separable from the web in an untessellated configuration.

38. A method of making an RFID device, the method comprising:
providing a web of conductive material;
forming at least one aperture in the web of conductive material; and
applying at least one strap across the at least one aperture.

39. The method of claim 38, wherein forming at least one aperture in the web material includes providing two webs of conductive material aligned in parallel with an aperture therebetween.

40. The method of claim 38, wherein the forming the at least one aperture includes:

forming at least one crease portion in the longitudinal direction of the web of conductive material, the crease portion including a central portion of overlapped web material between adjacent portions of single ply web material; and

removing at least part of the central portion of the at least one crease portion.

41. The method of claim 40, wherein the forming the at least one crease portion includes folding the web material into a T-shape cross-section.

42. The method of claim 40, wherein the forming the at least one crease portion includes connecting the central portion of overlapping web material with a non-conductive adhesive.

43. The method of claim 40, wherein the removing at least part of the central portion of the at least one crease portion includes cutting the central portion of overlapping web material along the longitudinal axis of the crease portion.

44. The method of claim 40, wherein the applying at least one strap includes using an adhesive.

45. The method of claim 38, further comprising dividing the web material into a plurality of discrete tessellated RFID devices by cutting the web material across the transverse axis.

46. The method of claim 38, further comprising dividing the web material into a plurality of discrete untessellated RFID devices by cutting the web material across the transverse axis.

47. The method of claim 38, further comprising dividing the web material into a plurality of discrete partially tessellated RFID devices by cutting the web material across the transverse axis.

48. A web of RFID devices comprising:

a conductive web material;

at least one aperture in the conductive web material forming at least two separate conductor portions;

at least one RFID device, the RFID device including:

a strap attached across the aperture and coupled to a conductor portion on each side of the aperture.

49. A web of RFID devices according to claim 48, wherein the at least one aperture in the conductive web material extends in the longitudinal direction of the web, and the at least one RFID device is oriented in the transverse direction of the web material.

50. A web of RFID devices according to claim 48, further comprising a plurality of RFID devices arranged in a tessellated configuration.

51. A web of RFID devices according to claim 48, further comprising a plurality of RFID devices arranged in a partially tessellated configuration.

52. A web of RFID devices according to claim 48, further comprising a plurality of RFID devices arranged in a tessellated configuration.

53. A web of RFID devices according to claim 48, further comprising a plurality of RFID devices separable from the web in a tessellated configuration.

54. A web of RFID devices according to claim 48, further comprising a plurality of RFID devices separable from the web in a partially tessellated configuration.

55. A web of RFID devices according to claim 48, further comprising a plurality of RFID devices separable from the web in an untessellated configuration.

56. A method of testing RFID devices, comprising the steps of:

providing a web that includes the RFID devices;

cutting a slit in the web on opposite sides of one of the RFID devices, wherein the slits partially separate a central portion of the RFID device from other portions of the web;

deflecting the central portion of the RFID device from the plane of the web; and

testing the RFID device.

57. The method of claim 56, wherein the deflecting the central portion of the RFID device from the plane of the web includes using a vacuum to deflect the central portion.

58. The method of claim 56, wherein the testing the RFID device includes testing a plurality of RFID devices.

59. A method of programming RFID devices comprising the steps of:

providing a web that includes the RFID devices;

cutting a slit in the web on opposite sides of one of the RFID devices, wherein the slits partially separate a central portion of the RFID device from other portions of the web;

deflecting the central portion of the RFID device from the plane of the web; and

programming the RFID device.

60. The method of claim 59, wherein the deflecting the central portion of the RFID device from the plane of the web includes using a vacuum to deflect the central portion.

61. The method of claim 59, wherein the programming the RFID device includes programming a plurality of RFID devices.